

Brain Teaser

Team 8 - Object Oriented Dudes

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Problem Statement

- Dementia is a serious mental illness that is most common for people over the age of 65, but can also affect much younger people
- Early signs of the disease begin when people are in their 50s, 40s, and in some cases - even 30s
- The most powerful way to combat this illness is by exercising your mind

Objectives

- Design and implement a series of games, puzzles, and challenges that will help exercise the brain of elderly people and people with pre-existing conditions.
- These games will be fashioned to challenge the users' memory and problem solving skills.
- Provide a variety of games and puzzles for the user, so the user will have a unique experience every time they use the software

Functional requirements

- The *Player* will be able to play games.
- The *Player* will be able to unlock more games.
- The *Player* will be able to view the scoreboard.
- The *Player* will be able to purchase themes.
- The *Player* will be able to change options of the window.
- The *Player* will be able to unlock new words to add to their dictionary.
- The *Player* will also be able to participate in daily challenges and keep track of how many daily challenges they have completed in a row.
- *Players* can have multiple accounts and may switch between them, stats and options will save for each account.
- User information is securely stored and not publicly accessible.

Nonfunctional Requirements

- *UI*, must be intuitive to use and figure out
- *Low Operating Cost*, each game must be able to run without crashing the program on the lowest level desktops and laptops.

Constraints

- Should be able to be accessed on any windows pc that can run with the executable file and java runtime downloaded.

Actors and Scenario With use Case Diagrams

• Actors

- *Player*
- *Existing Software*

• Scenario Name: playBrainTeaser

• Participating Actor Instances: grandpa Joe: Player, BrainTeaser: Existing Software.

• Flow of Events

- Joe, Logs onto brain teaser
- Joe, Clicks games in the main menu and picks a game
- Joe, Plays that Game and records a score
- Existing Software, Checks that score against already recorded High Score, and updates that score if it is higher.
- Joe, exits the game
- Joe, goes to the scoreboard and checks scores.
- Joe, goes to dictionary and checks new words
- Joe, goes to store and uses newly gained points to purchase a new UI theme
- Existing Software, updates the UI to the new theme
- Joe, goes to options changes text size
- Existing Software, updates the text size to the new size.
- Joe logs out of Brain Teaser

• Actors

- Player
- Existing Software

• Scenario Name: Timmy Plays Brainteaser

- Participating actor instances: Timmy: Player, BrainTeaser: Existing Software.
- Flow of Events
 - Timmy, logs onto brain teaser
 - Timmy, clicks on main menu
 - Timmy, clicks on unplayable game
 - Timmy, purchases unplayable game
 - Timmy, confirms the purchase
 - Timmy, clicks on purchased game
 - Timmy, plays a game and record a score
 - Timmy, goes back to main menu
 - Timmy, clicks on Avatar
 - Timmy, purchases Avatar
 - Timmy, confirms the purchase
 - Timmy, exits brain teaser

